Mimulus Memo

California Native Plant Society
KERN CHAPTER

Loquerisne linguam latinam?
(Do you speak Latin?)

by Nancy Nies

SEPTEMBER 2016

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EVENTS

SEPTEMBER

9-11 – CNPS Council Meeting & Conservation Symposium, Morro Bay

15 – Chapter Meeting, 6 pm
Program, 7 pm

OCTOBER

20 – Chapter Meeting, 6 pm
Program, 7 pm

NOVEMBER

17 – Chapter Meeting, 6 pm
Program, 7 pm

DECEMBER

15 – No Meeting

JANUARY

19 – ANNUAL POTLUCK

IT WAS DURING A CONVERSATION LAST APRIL WITH **CLYDE Golden**, concerning the identification of a certain wildflower, that I experienced an "*Aha!*" moment — more about that later — which planted the seed for this article. Clyde's explanation satisfied my curiosity not only about the plant's name, but also about the Latin itself — what it said about the flower and what word it had given to English. Making these connections would help me remember the plant and something about it, as well as an English word new to me. The experience spurred me to research the descriptive species names of some of the plants I saw in bloom on Kern CNPS field trips this spring. Here, I'll give some highlights of three of those trips, as well as the results of my research on the plants' names — a lesson in botanical Latin for beginners.

Photo: Barry Breckling, Creative Commons Photo: Nancy Nies

Hillsides full of *Monolopia lanceolata*, Carizzo Plain field trip, April 2016
Right: *Monolopia lanceolata* (hillside daisy)

Making these connections would help me remember the plant and something about it...

On our **April 16** field trip to the **Carizzo Plain** with BLM botanist **Denis Kearns**, we climbed Caliente Ridge, which afforded an impressive view to the south — in the distance, the blue mountains of the Caliente Range, and, closer in, entire hillsides turned a vibrant yellow by *Monolopia lanceolata* (hillside daisy). (The species name refers to the plant's "*lance-shaped*" leaves. From

Photos: Nancy Nies

Above: *Caulanthus inflatus* (desert candle)
Right: Close-up of *Caulanthus inflatus*

the Latin, English gets the term "*lanceolate*", defined in one reference as having "*a relatively narrow shape with curved sides tapering to a pointed end,*" and in another as simply "*longer than broad.*") Lining the road, in the foreground of the landscape described above, was a striking colony of maroon-tipped *Caulanthus inflatus* (desert candle). (The word inflatus clearly tells us that the plant appears swollen — as though inflated — in comparison to the other jewelflowers. One source explains the term as "*bladdery, (i. e. thin, membranous and swollen*")). Blooming here and there among the *Caulanthus* was the orange-petaled *Mentzelia pectinata* (San Joaquin blazing star). (Its name, having nothing to do with "*pectin,*" is a false cognate for English speakers. It actually means "*comb-like,*" which describes the plant's leaves and gives us the English word "*pectinate,*" defined in my Webster's as "*having narrow parallel projections or divisions suggestive of the teeth of a comb.*" The only related English word I could find was "*peignoir,*" which is actually a French word for "*a garment worn while combing the hair*"!)

When botanist **Pam De Vries** gave Kern CNPS members a guided tour at **Bitter Creek National Wildlife Refuge** on **April 23**, we enjoyed panoramic views of the Carizzo Plain, San Andreas Fault, and Temblor Range. We also saw many blooming plants, including some with picturesque names. One was *Eriophyllum confertiflorum* (golden yarrow). Its species name tells us it that its flowers are "*crowded,*" or "*pressed closely together,*" and is related to the Latin term for "*to bring together,*" which gives us the English words "*confer*" and "*conference.*" So, we might think of the small, bright-yellow flowers as gathering together to confer with one another. Another plant we spotted that day was *Salvia columbariae* (chia), a sage whose form is reminiscent of a "*columbarium,*" or "*dovecote,*" with its many recesses — each of which, we might imagine, awaits a tiny dove. (Incidentally, the columbine — whose flower is thought to resemble a bird — also gets its name from the Latin word *columba* (dove).) At Bitter Creek we also sighted *Erysimum capitatum* (western wallflower), whose species name refers to the fact that its yellow to orange flowers form a knob-like head. (English has common head-related words starting with "*cap*" — "*captain,*" "*capital,*" and "*cap*" itself, for example. Most English speakers would likely know the meaning of the verb "*decapitate,*" but few would know that the related adjective, "*capitate,*" means "*forming a head.*")

Eriophyllum confertiflorum (golden yarrow)

Above: *Triteleia laxa* (Ithuriel's spear) and *Quercus douglasii* (blue oak), Toll House Ranch field trip, May 2016. **Right:** Close-up of *Tritelia laxa*

On **May 1**, the local chapters of CNPS, Audubon, and Sierra Club sponsored a field trip with ecologist **Zach**

Principe, on the **Nature Conservancy's Toll House Ranch** in the foothills above Caliente, east of Bakersfield. The highlight was seeing a spectacular display of the lovely, lily-like *Triteleia laxa* (Ithuriel's spear), which created wide swathes of bluish-lavender on hillside after hillside. (As you might expect, its species name is associated with the words "*lax*" and "*loose*," indicating that "*the parts are distant from each other, with an open, light . . . arrangement*," according to one reference text.) Another sighting on that trip was a healthy clump of *Mimulus floribundus* (many-flowered monkey-flower), with its many small, yellow flowers. (One botanical lexicon defines *floribundus* as "*profusely flowering*"; another as "*free-flowering; abounding in flowers; flowering for a long season.*") Near a rock outcropping decorated with Native American pictographs, we saw a large colony of the rare *Diplacus pictus*, formerly *Mimulus pictus* (calico monkey-flower), its blooms white with maroon veining. (This is Kern CNPS's logo flower, which appears on the banner of the Mimulus Memo. It was not until I researched "*pictus*," however, that I saw its relationship to "*pigment*" and "*picture*," finally understood its meaning of "*painted, brightly marked*," and realized how appropriate it was to find the plants growing close to pictographs!)

Photo: Barry Breckling, Creative Commons

Nemophila maculata
(mountain five-spot)

And now, back to the "*Aha*!" moment that led me to look into the Latin names of some of the flowers I saw last spring, and to write about them. I had asked Clyde to identify a single bloom I had seen in the White Wolf Grade area. It had five white petals, each with a purple spot. Clyde told me it was *Nemophila maculata* (mountain five-spot), explaining that *maculata* — "*maculate*" in English — meant "*spotted*," just as its commonly-used opposite, "*immaculate*," means "*spotless*"! (I have since discovered that the related French botanical term *maquis* — the equivalent of our "*chaparral*" — originated in Corsica, where groups of shrubs were seen as spots on the mountainsides.)

I look forward to making more botanical discoveries, as well as related linguistic ones. Learning even a little of another language — Latin, in this case — can have many benefits. Una lingua numquam satis est. (One language is never enough.) ✿

References:
Botanical Latin, by William T. Stearn; *Gardener's Latin* by Bill Neal; Origins: *A Short Etymological Dictionary of Modern English*, by Eric Partridge; *Kern County Flora*, by Maynard Moe; and *A Field Guide to the Plants of the San Emigdio Mountains Region of California*, by Pam De Vries.

Thank you to:

...**Dorie Giragosian** for providing a generous, delightful and refreshing meal, and a pleasing setting for our Fall Ex-Com meeting.

...**Lucy Clark** and **Fred Chynoweth** for keeping abreast of conservation and local planning issues — a dauntingly complex and multi-faceted task — AND reporting back to us.

... **Nick Jensen** for his program, *Flora of the Tejon Ranch Conservancy*.

...the members who provide refreshments at all our meetings. ✿

California Native Plant Society

CNPS is the leader for providing reliable information on California native plants and plant conservation. Comprehensive information about California's flora and vegetation communities is available through-out the state for conservation and educational purposes. CNPS's leaderships influences personal ethics and actions, as well as public policy for native plant protection.

FREE BOOKS!

(& OTHER BARGAINS FOR YOUR BOTANY LIBRARY)

CNPS HAS FACILITATED THE PUBLICATION of ***Kern County Flora***, *A Key to Vascular Plant Species of Kern County, California*, written by longtime local botanist and popular CSUB professor, **Maynard Moe.** Because Kern CNPS helped sponsor this, the book is available FREE to our members. If you are a member, please contact **Monica Tudor, Don Turkal** or **Paul Gipe** to obtain your free copy. (The book is also available to non-members for purchase for $20).

In addition to the Moe book we have a sizable selection of books relating to plant identification and general botany which we need to purge from our inventory and are offering at half-price at our monthly meetings.

Take advantage of these book bargains! ✿

Kern Chapter CNPS

FALL PLANT SALE

Saturday

October 22, 2016

9am—1pm

CSUB-FACT

off Camino Media

Volunteers needed for Set-Up on Friday, October 21 and Sale Day

Pre-orders accepted

Contact Monica at dosportas@msn.com or Dorie at 327dorieg@gmail.com

Chapter Meetings

upcoming TOPICS

Thursday, September 15, 2016 - 7 pm:
Joy England, *Plants of Rock Creek*

Thursday, October 20, 2016 - 7 pm:
Orchid Black, *Gardening with Natives*

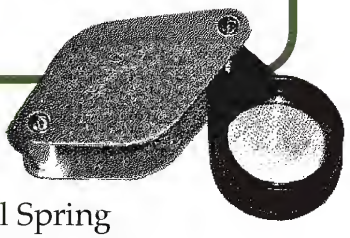
Thursday, November 17, 2016 - 7 pm:
Paul Siri Wilson,
Bryophytes

Thursday, December 15, 2017 -
NO MEETING

Thursday, January 19, 2017 - 7 pm
ANNUAL POTLUCK
Program: Rich Spjut,
Baja California Lichens

All chapter meetings are held the 3rd Thursday of each month at the Hall Ambulance Community Room 1031 21st Street (21st & N St.), Bakersfield, CA.

Meeting times:
6 pm — Discussion groups on plant identification and native plant gardening
7 pm — Program presentation



2nd Annual Spring Retreat "So Be Free 22"

Bryophytes

March 27-30, 2017

Retreat will be held in the Three Rivers area. Lodging is offered at the **Saint Anthony Retreat Center** or **Santa Teresita Youth Conference Center** where the event is based, but other lodging is available. Prices range from $65 to $355 depending on the type of lodging you choose. Registration deadline is **15 Dec. 2016**. Register at *bryophyte.cnps.org*. ✿

President's Message: Bitterbrush — Observations on Morphology & Taxonomy

by Richard Spjut

IN OCTOBER 1989, I COLLECTED samples of **bitterbrush** [*Purshia tridentata, Rosaceae]* in California for a natural-product chemist at **Purdue University, Dr. Ching-jer Chang**, who screened biodiversity collections of plants for new anti-cancer compounds.

The dried samples consisted of 240 g. of root and 350 g. of twigs-leaves at one location, 200 g. of stem-bark at a second location, and 200 g. of root at a third location. For voucher specimens I noted that:

- at the first location — 16 miles east of the town of Mount Shasta on sandy flats with scattered ponderosa pine and chaparral, 3,500 ft elevation — it was a rounded shrub 1–1.5 m. high with "quite glabrous leaves", "sunken glands indistinct";
- in the second location — 60 miles east of Redding — it was a "scrubby tree to 5 m. high, bark thin, dry, hard to peel", occurring with *Cercocarpus ledifolius* (curl leaf mountain mahogany) around granite boulders at 4,000 ft.;
- and in the third location — southeast of Mono Lake "in Jeffrey pine woodland" at 7,500 ft. — it was "a common understory shrub".

Dr. Chang reported anti-tumor activity in a root sample and requested 5 kg. recollection which I obtained in June 1990 from the eastern Cascades of Washington "along the forest margins and open rocky places" there at 3,500 ft, while simultaneously collecting bryophytes for anti-tumor screening by **Dr. David Kingston** at **Virginia Polytechnic Institute and State University**.

The recollection, however, failed to reconfirm the anti-tumor activity. Dr. Chang questioned whether I had recollected the right species. Subsequently, I have paid closer attention to the morphological and ecological variations in bitterbrushes.

Prior to *The Jepson Manual* (1993, Hickman edition), the bitterbrush genus included just one other species, *Purshia glandulosa*[1].The two species are commonly known as **northern antelope bush** (*P. tridentata*) and **Mojave antelope bush** (*P. glandulosa*) in reference to their differing geographical ranges and their importance as food to antelope and deer[2]. **Northern antelope bush** is primarily found in the Great Basin and Rocky Mt. regions, and **Mojave antelope bush** in the Mojave Desert to southern Great Basin Desert; both occur in Kern County (**Fig. 1**). However, they have since become one species and two varieties of just **bitterbrush** (*P. tridentata*). **Why?**

...Because they are viewed as promiscuous in hybrid-

All photos courtesy Richard Spjut

Fig. 1. Comparison of two species of *Purshia*, **antelope bush (bitterbrush**), in Kern County. **Left:** *P. tridentata*, showing young, fruiting carpel in several flowers, and terminally 3-lobed leaves that are white hairy underneath and slightly curled inwards along margins. A knee-high shrub collected on the north side of Sorrell Peak just south of Piute Mt. in Jeffrey pine forest. **Right:** *P. glandulosa*, with young, fruiting carpel visible in upper left flower, and with distinctive glutinous 3-lobed leaves rolled under along margins to midrib. Collected from a tree-like plant in desert scrub along the eastern Sierra Nevada, upper region of Short Canyon with scattered California juniper, Joshua tree, Palmer oak, bear-grass (*Nolina parryi*), and bladder sage.

Fig. 2. Cliffrose, *Cowania stansburyana*, with flowers and young fruit. Flowers each have multiple individual carpels, evident by the 2–5 long, feathery, fruiting styles, elongating as they grow out of their floral vase-like hypanthium, the carpel body (ovary) not visible (inside the hypanthium); leaves 5-lobed, glossy, green, resinous. Inyo County, White Mts. near Cerro Gordo.

Fig. 3. Pine forest antelope bush. Top: Along California Hwy 395 in Mono County, abundant shrub in understory of Jeffrey pine woodland. **Bottom:** Southwestern Colorado, a common understory shrub in open ponderosa pine forest. Plants obviously similar at both locations, small round shrubs mostly <1 m. high with fine, interwoven branches. Close-up of California plant is shown to have one fruiting carpel per flower whereas the Colorado plant has one to three multiple carpels per flower. Various pine forest–bitter brush associations that have been described are referenced in *A Manual of California Vegetation*, 2nd ed[11]. "From British Columbia to Truckee, California along the eastern slopes of the Cascades and northern Sierra Nevada, ponderosa pine (*Pinus ponderosa*) or Jeffrey pine (*P. jeffreyi*) woodlands with antelope bitterbrush understories have a distinct, repetitive, identifiable appearance that produces a characteristic landscape"[12].

Fig. 4. Krummholz antelope bush alliance. **Top:** Southwestern Wyoming near the Continental Divide, ~8,500 ft. **Bottom:** California, west of Hwy 395 in Mono County along road to Virginia Lakes, 8,300–9,000 ft. Plants at both locations similar in habit — low ± flat-topped shrubs, wider than tall, circular in outline. Close-up of California plant shows one fruiting carpel per flower in contrast to the Colorado plant with one to two multiple carpels per flower. Note the wedge-shaped leaves are relatively broad and tapered to base in comparison to the narrow, tapered leaves of the pine forest antelope bush shown in Fig. 3.

izing with another related species, commonly called **cliffrose** (*Cowania stansburyana* **[Fig. 2]**), where their geographic ranges overlap. Their alleged introgressions[3] led to the downfall of *Cowania*[4] — all of its six species were added to *Purshia*. One in Arizona — *P. subintegra* — developed an identity crisis for its promiscuity with *P. stansburyana*. *Purshia subintegra* is an endangered species that may lose its protected status if it keeps pollinating around with *P. stansburyana*[5]. The plants are not entirely to blame, however, human disturbances to their habitats have been implicated[6].

Although hybridization is reportedly common wherever the rosaceous species overlap geographically, I have rarely seen the hybrids in my travels. Moreover, *Jepson* (1923) had noted that the alleged "hybrid between ***Cowania mexicana* var. *stansburiana*** *[sic]* **and *Purshia tridentata*", "variety *dubia* Bdg." (Brandegee),** known then from the Providence Mts., CA and Morey Peak, NV, was **rarely collected.**[7] "*Cowania* differs from *Purshia* in so many striking characteristics that hybrids and hybrid derivatives are easily detected in the field"[8].

Therefore, it seems reasonable not to recognize *P. subintegra* since it is a genetically modified species (*P. x subintegra*) as a result of being hybridized over most of its range when other *Purshia* and *Cowania* species are not recognized as distinct over most their range.

Furthermore, there are characteristic differences of **northern antelope bush** (*Purshia tridentata*) worthy of taxonomic varietal status. I proposed (see www.worldbotanical.com/purshia.htm) that the bitterbrushes be kept separate species and *P. stansburyana* be classified in *Cowania*.

Four varieties of *P. tridentata* can be seen along Highway 395 from Mono County in California to central Oregon and elsewhere , titled and described as follows:

1. **Pine forest antelope bush** (**Fig.3**). Low, rounded shrub with many basal stems ascending to 1 m.; the branches relatively thin and interwoven; occurring in montane pine forests, notably ponderosa pine in northern California north to British Columbia and east to Colorado, with Jeffrey pine in California, occasionally with lodgepole pine in California and Oregon. In Kern County it can be seen in Jeffrey pine forest on the southern Kern Plateau and in the Piute Mts. and the north slope of Sorrell Peak (**Fig. 1**).

2. **Krummholz antelope bush** (**Fig. 4**). Low flat-topped shrub, wider than tall; a stunted growth habit in subalpine scrub ranging from California to Wyoming.
3. **Arborescent antelope bush** (**Fig.5**). Tree-like to 5 m. or more with abundant spur shoots; often forming thickets or forests from California to Oregon.
4. **Desert shrubland antelope bush** (**Fig. 6**). Erect to wide spreading shrub, branching profusely, usually 1–3 m. high; forming alliances in the Great Basin Desert.

Except for No. 4, the varieties are easily recognized at a glance, even at highway speeds – obviously, no hand lens needed! They generally retain their field characteristic traits when grown in the greenhouse. Thus, differences in the habit of the plant have a genetic basis[9].

Although I recollected *Purshia tridentata* by modern day floristic accounts, Dr. Chang may be right that I recollected a root sample from the wrong species or from a variety that has yet to be formally recognized; alternatively, it may be that its root-soil bacteria associations[10] were responsible for its antitumor activity. ✿

Fig. 5. Arborescent antelope bush, a localized forest-like stand in the California Mono floristic subdivision along Hwy 395, ~6,500 ft. Tree-like in habit. Thickets frequently seen along the California/Nevada State line from Mono County to near Janesville in Lassen County, CA where also described by Alderfer[9] as "extraordinary stands of bitterbrush presented towering thickets."

References:

[1] *The Jepson Manual*, Calif. 1925
[2] Abrams , *Illus. Fl. Pacif. States II*, 1944
[3] Stebbins, *Proc. Am. Phil. Soc. 103: 231–251*, 1959
[4] Henrickson, *Phytologia 60: 468*, 1986
[5] Travis, Baggs & Maschinski, *Conservation Genet. 9: 1183–1194*, 2008
[6] Baggs & Maschinski, *Proceedings RMRS-P-23*, Fort Collins, CO, 2000
[7] Jepson in *A Manual of California*, 1923, citing Brandegee in Zoe 5: 149, 1903 emphasis added
[8] H. C. Stutz & L. Kay Thomas, *Evolution 18: 183–195*, 1964
[9] J. M. Alderfer, *A taxonomic study of bitterbrush (Purshia tridentata [Pursh] DC.)* in Oregon, MS Thesis, OSU, 1976
[10] actinorrhizal, Frankia, S. M. Swensen, *Am. J. Bot. 83: 1503– 1512*, 1996
[11] *A Manual of California Vegetation , 2nd ed. (MCV2)*, J. O. Sawyer, T. Keeler-Wolf, and J. M. Evens, *CNPS*, 2009.
[12] J. A. Young and C. D. Clements, *Purshia: The Wild and Bitter Roses*, Univ. Nevada Press, 2002

Fig. 6. Desert shrubland antelope bush. **Left:** west of Hwy 395 along Rock Creek Road north of Bishop, Mono Co., California, 6,300 ft. **Right:** Alvord Desert, an alkali desert in the rain shadow of the Steens Mountain, Oregon, 4,000 ft.

Report:
Horse Meadow Campground Trip

by Lucy Clark

OUR CHAPTER'S TRIP TO **HORSE MEADOW Campground** in the Sequoia National Forest was held **July 22nd** to **24th**. Eight campers enjoyed the blooms, the blue sky, the running creeks, and the clean air. While some of the showier plants like large leaf lupine and penstemon were almost bloomed out, others were in their glory. Please see the photos by Clyde Golden. We enjoyed the trip across the mountains, making it over Sherman Pass, but encountered a meadow, and got not much further.

Delphinium sp. (polycladon?)

Dinner together was a fun pot-luck feast. Sunday am we explored Salmon Creek within the campground, and found more interesting plants. It was a good time, and no one wanted to return to the 105° weather in the Valley!

Plan on joining us next year! ✿

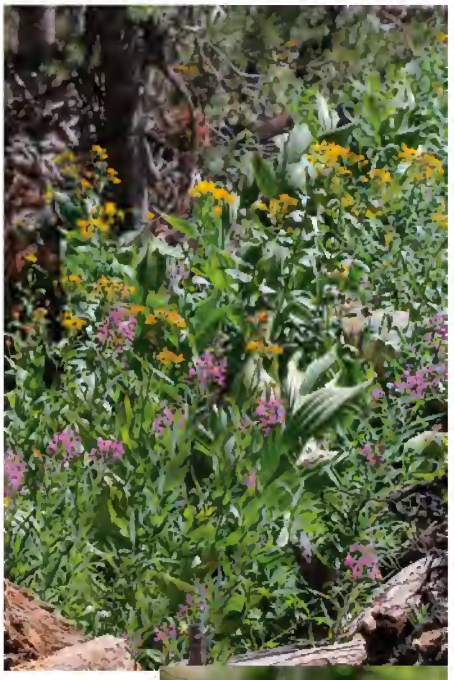
Above: *Antennaria rosea* (rosy pussytoes)

Left: daisy

Flower photos courtesy Clyde Golden

Photo courtesy Lucy Clark

Delightful dining *en plein air*: (From left to right): Jonathan, Janeen, Michelle, Toni, Daniel, Donna and Clyde. (Missing from photo - Lucy Clark)



Right: *Chamerion angustifolium ssp. circumvagum* (fireweed) and *Senecio triangularis* (arrowleaf ragwort)

Below: *Gentiana calycosa* (Ranier pleated

CONSERVATION REPORT

FRED CHYNOWETH AND **LUCY CLARK** ARE the members of the **Kern CNPS Conservation Committee**. They have been busy this past year, with much more work to come. Fred participates in the statewide CNPS Conservation phone call with **CNPS Conservation Director Greg Suba** each month.

Greg is working on the **CNPS Strategic Plan for 2016-2021**. He is also taking the lead in responding, along with the Kern Chapter, to the draft management plan for **Sequoia Nationa Forest**. It appears that the plan rolls back protection of plants and lacks monitoring.

Activities that the other chapters report include:

- **Orange County CNPS** is in an ongoing discussion on Owens Lake dust-control measures.
- CNPS chapters have partnered with like-minded organizations in litigation regarding developers' lack of compliance and destruction of plants.
- In Napa, a petition garnered enough signatures to put on the ballot an amendment to the general plan but the city clerk refused to accept it because an appendix was not included. The decision is being appealed.
- The **Ukiah chapter** has been awarded a grant for landscaping a city park.
- **East Bay** is working on an action plan related to mountain bike activities. Volunteers also give talks in schools.
- The East Bay Chapter of CNPS is a signatory to a petition to list the **Livermore tarplant** as endangered. All known populations are on 3 parcels in of the Livermore Valley. Fred attended a Dept. of Fish and Game meeting to speak in support of the petition.

They also have read government documents, and responded to issues that apply to plants. Lucy responded to the **Kern County Planning Department** regarding a new city to be called "**Grapevine**", located at the base of the Grapevine road, planned by the **Tejon Ranch Corp.** Our chapter asked for locally-growing native plants be used in all plantings. T**he County Planning Commission** will hold a hearing on **Thursday, Sept.8** at **7pm** at the **Board of Supervisors' Chambers** concerning Grapevine. **Please plan to attend to speak to sprawl, water, and air quality issues, and more.**

Another letter was sent to **Assemblyman Chu** in support of the **Assembly Bill 2162, the Oak Woodlands Protection bill**, which would apply to the whole state.

Three US Forests are the initial groups using a new planning process: our **Sequoia**, the **Sierra**, and the **Inyo**. Lucy attended a meeting with Forest Service personnel in Bakersfield, to gather more information on wilderness areas. These areas seem to be the best way to protect plants, as surveys of rare plants seem to be rare themselves. A letter has been emailed requesting wilderness areas be designated, as NONE were in the USFS' favored Alternative B. State CNPS has written parts of a coalition letter, and we will sign on as a chapter, also.

Lucy wrote a letter to the **Stanislaus Forest** officials regarding the negative effects of their plan for regeneration of that forest after the RIM fire.

We both have attended meetings of the **City of Bakersfield Habitat Conservation Plan Stakeholders Meetings**, and have received some information and maps, but there have been no meetings for months.

We organized and held a meeting with Greg Suba at **Randy McCormick's** office about getting together to work on a **Botanical Priority Protection Areas & Research Priorities for the San Joaquin Valley**. The plan was to wait until consultants in the field could be available to add their knowledge of rare plant locations in the Valley. This is still in the works.

As you can read, there are so many different issues in so many areas, and we could use some help! Please contact either of us to help with advocacy work. It is certainly mentally stimulating, and when we have responded to an issue, it really feels good. Please help us help our native plants! ✿

Why Conserve Rare Plants?

Because rare plants:

- Contribute to biodiversity
- Play key ecological roles
- Have evolutionary significance
- May provide medicinal uses
- Are protected by legal regulations
- Can be targets for conservation planning
- Can help protect natural communities as a whole
- Are of concern for one's environmental ethics and morals
- Are beautiful!!!

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The Kern Chapter of the

California Native Plant Society

California Native Plant Society meets the third Thursday of each month at:
Hall Ambulance Community Room
1013 21st St. (21st & N St.), Bakersfield, CA.
Chapter website: kern.cnps.org

The California Native Plant Society is a non-profit organization dedicated to the conservation of California native plants and their natural habitats, and to increasing the understanding, appreciation, and horticultural use of native plants. CNPS has 31 chapters throughout the state and membership is open to all persons — professional and amateur — with an interest in California's native plants. Members have diverse interests including natural history, botany, ecology, conservation, photography, drawing, hiking and gardening. As a Kern County resident, your membership includes Fremontia, *a quarterly journal with articles on all aspects of native plants; the* Bulletin, *a statewide report of activities and schedules; and* The Mimulus Memo, *the newsletter of the Kern Chapter.*

Join CNPS or renew your membership online at www.cnps.org.

Student/Limited Income – $25
Individual – $45
Family or Library – $75

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California Native Plant Society
KERN CHAPTER

Mimulus Memo

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